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## PHONETICS OF THE KAYOWĒ LANGUAGE.

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In comparing the wording of a text, written or printed in any of the living languages, with the pronunciation of this text by the people speaking that language, we cannot deny that in the majority of instances the written characters convey to us the true pronunciation in a very imperfect manner only. These imperfections are due to several causes, and some of them are not always easy to overcome. The person transcribing a text worded in a strange language may experience a difficulty in catching the true sound, for among many individuals there exists sound-deafness just as well as there is color-blindness in optics. Inaccuracies of phonetic notation may also be due to a desire of restricting oneself to as few letters as possible, to avoid the casting of new types, and to smooth over phonetic difficulties; finally, to a lack of insight into the phonetic laws of the language. This last is preeminently the case when books printed in Indian languages are concerned; and in these pages I intend to show by the particular instance of the Káyowē language some phonetic laws pervading the speech of a large portion, if not of all the American Indians.

The ethnography of the equestrian and erratic tribe of the Káyowē is not a topic to enlarge upon in this article. Our closer acquaintance with this western tribe, whose ancient seats were in Eastern Colorado, near the topographic centre of the United States, does not date further back than half a century. In historical times they have always been the associates and fellow hunters of the more populous tribe of the Comanches, although they belong to a different linguistic family. The majority of the individuals of both tribes are now settled in the southwestern part of the Indian Territory. The Káyowē call themselves Kó-i, Koi; in the plural: Kó-igu, Gó-igu. A Káyowē man is Kó-i kia, abbreviated Kó-i ki, a Káyowē woman: Kó-i máyi, abbreviated Kó-i ma; the Káyowē language: Kó-i túmkie. The Aráphos call the Káyowē:

Nitchíhi. The western tribes use several *gesture-signs* to designate Káyowē Indians; one of them is as follows: "Place the right hand a short distance above the right side of the head, fingers and thumb separated and extended; shake it rapidly from side to side, giving it a slight rotary motion in doing so." This sign means: rattle-brained. (G. Mallory, Collect. of Gesture-Signs, p. 302.)

#### CONSONANTS.

The sounds composing this language are exhibited to the best advantage by being tabulated systematically, the diphthongs alone being omitted:

	Not aspirated.	Aspirated.	Spirants.	Nasals.	Trills.	Vowels.
Gutturals:	k, g	χ	h, '	ng		e { a }
Palatals:			y			i }
Linguals:	ł, ɿ		sh		l	o } o
Dentals:	t, d		s, z	n, nd, 'dl		
Labials:	p, b	f	w	m, mb		u }

In this phonetic series the most conspicuous facts are the prevalence of nasals, the absence of r, v, and of the palatals dsh and tch. The two last mentioned sounds are very frequent in most of the other languages of North America. The palatal series is represented by one consonant only; the guttural and dental series is fully represented, while in the labial series p, b and m are the only frequent consonantic sounds. F is found in some words only, and alternates there with p: pái or fái *land, earth*; probably it could be rendered just as correctly by v'h, vh. Other sounds not frequently met with are: sh, w; ł, ɿ, the two last being linguo-dentals produced by holding the inverted tip of the tongue against the hard palate and then pronouncing k or g. The aspirates th, dh, and the lingual spirant s are not among the sounds of this language. On the nasalizing process, see below.

Among the spirants we notice the h and the so-called arrested sound ('); both of them can be inserted at will between certain sounds of a word to produce some rhetorical effect: piutóg'o and pihú'doa *to fly*; p'á and pá *moon*; ó-i and ó-i'h *much*; t'á-i and tá-i, tai *white*; há-apo and há-a'lpo *to carry away*; hú-iti and ú-iti *he, this one*; no túi and nó'h tui *my home*.

A very peculiar sound met with in Káyowē, in some other languages of the Mississippi plains, as in Pawnee, Wichita, and also in Central California, is of a nasal-dental type and can appropriately be rendered by 'dl. It alternates with a sound pronounced almost like d, t and l, and in the words where

this alternation has taken place, I propose to write these latter consonants not as above, but to point them: ·d, ·t, ·l. Thus itá·dli *boy*, may be pronounced also: itá·li, itá·di; kó·dlto *to bite*: kó'·ldo, kó·to (for kó·t-to); hú·dldi *soon*: hú·ddi, hû'·l-ti.

No word begins with ·dl, nor, as far as I have been able to ascertain, with l or w.

Consonants susceptible of gemination are: s in mû'ssa *six*; g in ónggo *oneself, or each other*.

Before we pass over to the vocalic sounds, a remark on palatals may find its place. In the Indo-European languages the palatals dsh and tch have originated from gutturals, in the Polynesian languages from dentals; but there are Indian languages in which dsh and tch (tsh) constantly alternate with ds and ts, these sounds having originated from s or z, which themselves alternate with sh and zh. In Káyowé the sounds s, z and ds, ts occur frequently, but sh, zh are rare and therefore we may suppose that the assimilation of ds, ts into dsh and tch has not yet taken place at all. In this particular the language has remained in an archaic, original status, and we can conveniently compare the fact, that the Upper German dialects have exchanged *swimmén* and *snepfe* for *schwimmen* and *schneppfe* at an epoch not earlier than the thirteenth century of our era.

#### VOWELS.

The vocalic series, together with the long vowels, is as follows:

- a: hádel *since*; á-ome *obtained*.
- ā: pā·dl *between*; tsā'no *reached*; ā'li *to chase*.
- â, same as ô: impâ'du *they had*; sâ'gum *to watch*.
- ä: kiä'nniup *men*; ä-äto *tree*.
- e: tupé-igi *before*; ipaté'-i *to trap*.
- ē: tsē *horse*; pánsē *seven*.
- ĕ, the primitive vowel: kahičko *to-morrow*; gúět *to paint*.
- i: hígo *then*; kí *meat*.
- í: sī'b *rain*; sī'b·da *it rains*; koní'ko *because*.
- î, dumb-sounding: îmsa *they placed*; 'htsî'l *to stand*.
- o: háko *to suspend*; tóhima *hungry*.
- ō: gōkin *ten*; k'ōlato *elm-tree*.
- u: kotu *shoulder*; gú-upa *behind*.
- ū: kūpkie *agency*; gū'-ū *to hunt*.
- û, dumb-sounding: û'ngta *glad*; kû'·ba *hunted*.

The two softened vowels ö and ü (of German etc.) do not occur. Every vowel can be geminated when rhetorical effect is intended: taki and tá-aki *good, handsome*.

Every diphthong is adulterine, that is, every combination of two different vowels, which are brought into contact or collision, can be pronounced as a monosyllable and as a disyllable: zéiba and zeíba *arrow*, fá-i and fai *land*.

The insertion of the consonantic y before or after i is observed in many terms: ti and tiy *all*; só i, ssó-i, soy, sóyi *to run fast*; pulá-i and puláyi *rabbit*; we notice even ûyû'ngta for u-úngta *glad, satisfied*; and yie for i-e *two*.

Length of vowel is often the result of a contraction or synizesis. When ó·ltem *head* is pronounced ó·ltem, the o may be lengthened, though not necessarily, into ö·ltem, gú·dl *buffalo*, into gó·l, gú·l, tsato-ah·á-apo *through*, into tsáto-ahā'po. By synizesis ko-ibató-ule *butterfly* becomes koibatō'le, atsá-uti *mother*: atsō'·ti.

A vowel may become long also by becoming emphasized: amuχkiabā'tsin *while he was travelling*; pá-upado and pa-upā'do *threefold*.

It is a remarkable feature of Káyowē, that the vowels of every word can become nasalized. This nasalization is either the one observed in the French *an, in, on, un*, marked in this article by n superior, or it consists in adding n to the vowel. Thus we can pronounce: no, nu *I, mine*: no', no<sup>n</sup>, non, no'-on, nû, nu<sup>n</sup>, nun, etc. Kohiko *because*: ko<sup>n</sup>híko, konhigo, ngohi<sup>n</sup>go, koní'ko. Ndóm̄tu, *house*: (lit. "mud-house"): ndó<sup>n</sup>-tu, dóm̄tu'h. Pulá-i *rabbit*: pulá<sup>n</sup>i, pu<sup>n</sup>láni, puláyi.

Among the consonants, g, b and some of the dentals, as is shown in table of sounds, are also susceptible of nasalization.

#### ALTERNATION OF SOUNDS.

The unbounded freedom pervading the phonetics of an Indian language can best be studied in the constant permutation or interchangeability of the sounds which are produced by the same vocal organ. Speaking of the languages that came to my notice, I can state that an Indian pronounces almost every word of his tongue in six, ten or twelve different ways. This sufficiently explains and justifies the orthographies, often innumerable in their variety, of geographical and tribal names, as of *Mohegan*, *Seneca*, *Juniata*, *Kennebec*, *Skokomish*, and also accounts for the fact that words and texts are written so differently even by competent investigators, who have made linguistic studies.

A few examples taken from Káyowē, added to the statements made above, will illustrate this curious feature better than any grammatic rules can; it appears from them, that interchange exists, for no apparent cause, between the *gutturals* k, g, gg, χ, Ɂ and the spirant h; between the *dentals* t, d, nd, md, and the sounds mentioned in connection with ·dl; between the *labials* p, b, f, mb. Among the *vowels* alternation is observed between a, ä, o, u, and their long sounds; between e, i, ä, and their long sounds; also between the nasalized and non-nasalized, and between the clear and the dumb-sounding vowels.

ú'hki *to travel*: úχki, ú'χgi.

dù'nde-i *mouse*: túnteí-, túntei, dù̄ntei.

ólogi *money*: ólonki, ólongi, óluŋki, ólomki.

ndinda *ours*: ndí'·da, ·dí·da.

o·dl *hair*: ó'l, ó·l, u-ó·l.

ónsû *to start*: hónsu, ánsu, á̄sû.

sáwelki *mouth*: só-elki, só-elgi.

ū'm *blood*: ûm, óm, â'm.

oatám *wild cat*: ó-utam, o-ûtäm, ó-atä'm.

mónkon *nose*: mókon, móndo, mónggon, mó̄ko, móko.

síb'nda *it rains*: séb'da, séb'nda, sī'bmda, sī'b'da.

táki *good*: tá·aki, tó·iki, tó·igi, toíki.

A phonology like this is observed in the majority of American languages and also in most unwritten languages of other parts of the world. The great mistake made by persons who have composed books in Indian tongues was to neglect these phonetic laws and to give to every Indian word a uniform orthography, just as they saw it done in the literary languages. When a standard orthography is allowed to act *during centuries* upon the education of a people, it will no doubt exercise some influence upon its pronunciation. But Indians do not conform themselves in their daily conversation to the orthography laid down in the religious books printed for them; the Creek Indians, for whom books were printed in a uniform orthography over forty years ago, speak with the same phonetic freedom as before, and constantly permute the related vowels and consonants with each other. It must be borne in mind, that very few of the people who compose books in Indian languages and "straighten out" their mode of transcription, are Indians; if they were, they would observe more closely the immutable laws, which regulate the phonology of their harmonious languages.

Even the grammarians and lexicographers who have been at work on the illiterate languages have taken no notice of this permutability of sounds and other marking characteristics of phonology, or if they have, they did not regard them worth the attention which they really deserve. It did not enter into the views of linguistic purification of many of these authors to enter upon this topic, thinking that the languages of rude nations have to conform, as much as possible, with the standard of European tongues, which are not only of totally different structure, but have been polished and sometimes grammatically impoverished by a literary development of many centuries.

The scientific value of studies made upon the interchangeability of sounds consists in revealing to us the formation of the *dialects of a language* and of many other processes, the knowledge of which will enable us to solve the most intricate problems of etymologic science.

#### OTHER PHONOLOGIC NOTES.

Final syllables of Káyowē words terminate equally often in consonants as in vowels; syllables which are not final usually terminate in a simple or nasalized vowel.

Of other phonetic peculiarities of Káyowē I mention the shifting of the accent from syllable to syllable for rhetoric reasons, even from one vowel of a diphthong to the other: ó-atäm and o-atä'm *wild cat*.

Since the language has a tendency to monosyllabism, *apheresis* is frequent: pû'mda *spot*, ípû'mda and pûmida *spotted*. *Apocope* is still more frequent: tégi *the whole night*, for té-i giaki.

The total number of sounds is considerable; for if we count in with the short vowels those with the long sound, we find 38, and with the nasalized vowels 43 sounds, just as many as there are in the English language.



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